And the life of these Indians is as simple and primitive as their houses. They have no furniture of any kind, they squat and sleep on the floor. As for tools, the only ones they have are cooking utensils and what they need for their canoe trips and for hunting and fishing. Each district has its Gobernador or cacique, who rules with an iron hand and keeps order. Around Easter they have a few penalty and penance days, when the chieftain executes sentences of whipping on all those who have committed misdeeds in the course of the year. The government in Quito does not interfere at all with the Cayapa, as they know that these peaceful Indians never get into trouble and never present problems.

The love and marriage life of the Cayapa is on a morally very high level. If a young man falls in love with a girl, his father turns match-maker and goes to see the girl's parents. If the young man is acceptable, they demand as high a dowry as possible, consisting of canoes, domestic animals, utensils and food. They will not part with their daughter without receiving a good price for her. In other words, the procedure is exactly the reverse from what it is in Europe, where the young lady has to be outfitted with a dowry in order to find a man.

In order to find out now whether the enamored young Cayapa is actually of marriageable age and in a position to support a family, he is sent into the forest with a blowgun, bow and arrows, i.e. with weapons which he can manufacture himself, in order to kill a tahino (type of wild boar). If he succeeds in this hunting feat, he has proved his capability, and the wedding may take place. Beforehand, however, he is sent to see the cacique, who will explain to him that marriage not only brings pleasure, but also troubles, asking him, whether he is prepared to suffer these. It is obvious that the answer is always yes. And now he has to undergo the test. He has to bare his back, on which the cacique will administer a hundred blows (well-counted on fingers and toes) with the chip. If the fiancé has neither cried out nor dodged, but bore the whipping with courage and steadfastness, even though his teeth may have been clenched, he has successfully passed the test [286] and the ceremony may be completed by the cacique.

A banquet is organized. Whatever the fields, forest and rivers can yield in terms of potables will be turned into food which will be accompanied by great quantities of Chicha, Guarapo and Masato (corn, cane-sugar and banana beverages). All the village inhabitants will attend the festivities. Many of them show how practical

585
[415] they are by bringing along "Mates" and "Calabazas," i.e. bowls and pitchers made of the rind of pumpkin-like fruit, into which they put the greatest part of the food and drink offered in order to carry them home. Only when everybody has eaten until he is ready to burst and the majority are rather drunk, the wedding draws to a close. The young couple is finally left alone and may go to their hut. But before the couple are allowed to enjoy their love to the full, they must pass through a long cruel (because it is continent) trial period. They live and sleep together under their
[286] common mosquito-net made of cotton with red flowers, but not as husband and wife, but as brother and sister, and they are not allowed to touch each other for an entire year. They must remain pious, chaste and abstemious, no matter how difficult it may be for them. The purpose is to steel the virtue of abstemiousness and the strength of will. Only when this period of fasting and trial is over, may they succumb to the ecstasies of love. Woe to those
684 who cannot withstand and secretely attempt to taste of the forbidden fruit before the end of the trial year—if discovered they pay for their crime with their lives or have to seek refuge immediately in another territory which cannot be reached by the punishing arm of their strict rulers. Only once I had occasion to watch how a fiance, who was violently in love, gingerly and furtively with trembling hands touched the arm and naked breast of his betrothed.

302 During this year of betrothal they use red and black plant juices
584 to paint their faces, chests, arms and legs with streaks and dots. This custom corresponds to our engagement announcements and wedding rings.

846 Immediately after the birth of a baby, the young mother gets
[515] up from her bed, goes to the river and bathes. Bathing in the river is one of the Cayapas' passions. Each and everyone of them take at least two or even three baths per day. The young mother has barely left her child when the grandmother cleans it up a bit, puts it down again; and then the father lies down with it, staying in bed with the child from three to five weeks, letting his wife nurse him, just as though he were the woman in child-bed, who had gone through the pains of childbirth and was in need of recuperating and nursing care. The young mother, on the other hand, does her usual work already an hour after delivery, attending to her daily chores as though nothing had happened. This strange custom is connected with their religious concepts and their fear of evil spirits

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Death.—Death is not considered to be a natural phenomenon but is attributed to the presence of malevolent spirits in the body. A dead man's soul hovers around his house, which is usually abandoned, though it may be dismantled and sold. The corpse is buried in a coffin in a Catholic-style cemetery near the church. The dead man's possessions are usually given away, but it is not known who inherits his fields and clearings.

ESTHETIC AND RECREATIONAL ACTIVITIES

Art.—The great range of designs used by the *Cayapa* in their face and body painting has already been mentioned. There is a similar variety in the geometric figures used to ornament their canoes. There are no design names, nor is there any apparent significance in their variation. Animals are sometimes painted on canoes destined for the market, but only geometric designs satisfy the native consumer.

Textile decoration, particularly on women's skirts, differs from canoe and body painting in its emphasis on realistic motifs. Men, mammals, reptiles, birds, fishes, and parts thereof are frequently woven into the cloth. Interestingly enough, in both design and execution this ornamentation resembles very closely the decoration used by Highland Indians on their belts (fajas).

Calabash dishes frequently have an incised design below the rim.

Canoe paddles and wooden seats are sometimes ornamented with carved images, and children usually play with carved wooden dolls.

Music and dancing.—Holidays, weddings, and other feasts are accompanied by much dancing and drinking. As elsewhere along the coast, the European marimba is widely used, as are panpipes, flutes, drums, and rattles. In recent years the Highland San Juan dance has been gaining in popularity. Also of immediate Highland provenience may be the small European wooden harp with palm-fiber strings.

Toys.—Children's activities are usually imitative of adult pursuits. Complete sets of diminutive artifacts are made for the children. Blowguns are given the boys. Only dolls and tops seem to be specifically children's toys.

Alcoholic beverages.—There is no evidence of the use of narcotics. Guarapo, the fermented juice of sugarcane, and rum, its distilled by-product, are both made and liberally drunk by the people at appropriate occasions.

RELIGION

Native *Cayapa* religion has blended with many Roman Catholic practices. Baptism, marriage, and political office must be confirmed by the priest. Masses are told for the souls of the dead, and Easter and Christmas are celebrated whenever the priest happens to visit the community.

3: Barrett E-5 (1908-1909)1925
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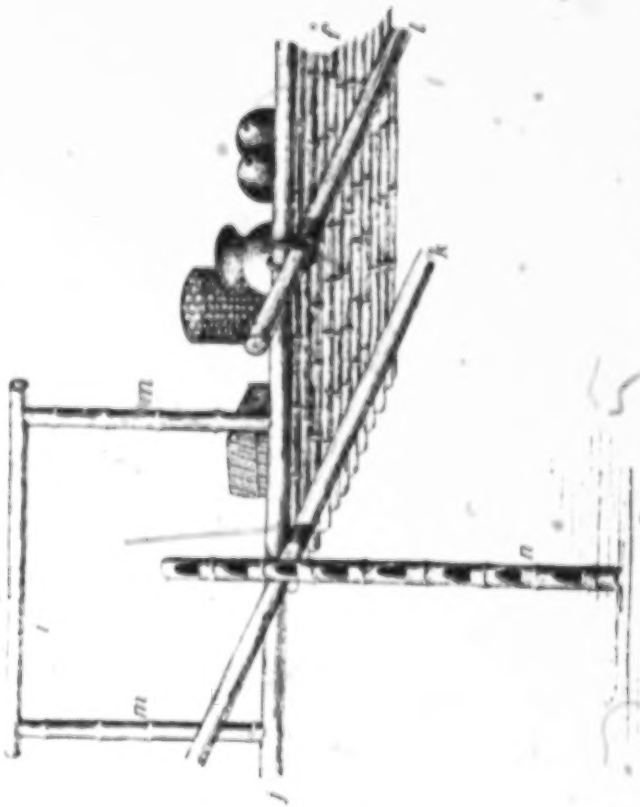
PL. XIV



STORAGE PLATFORM OR LOFT

BARRETT—CAYAPA INDIANS

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

to the river to lay their eggs. The large eggs of the alligator are also much in favor, and it is said by some that alligator flesh is edible. The eggs and flesh of another and slightly different species of amphibian, called tulicio in the local Spanish, are likewise used for food. In addition to these foods there are certain insects which, either full-grown or in the larval state, are much esteemed.

Various methods are employed in the preparation of these foods. The plantain, the most important food product of the Cayapa, is prepared in a variety of ways. It is almost invariably gathered while green, and is regularly eaten in that condition, though ripe plantain is frequently used for making a kind of gruel, and occasionally it is roasted. The usual method of preparing the green plantains is by boiling, the outer covering of the fruit having first been removed. They are thus cooked for from a half to three-quarters of an hour in a pottery vessel, or nowadays more frequently in an iron or a granite-iron kettle, closely covered with a green leaf called ū′tya hakī, which is very tough and is used in many ways in the preparation of food. It is impossible to cook green plantain so that it is tender, hence the usual mode of preparing it is to beat the hard, cooked fruit with a stone muller upon a mealing stone (pl. LXII, f. 1, 2), mixing and kneading it meanwhile with the hand. Usually this beaten plantain, which is called bala, is eaten without seasoning, although a little salt may be added; or it may be mixed with dried meat during the pounding. The boiled green plantain is also frequently eaten without

3: Barrett E-5 (1908-1909)1925
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pounding. The ripe plantain, on the other hand, is generally prepared, after boiling, by macerating with a wooden masher, matcō'ka, in a wooden bowl, called batea in Spanish. In pls. LXI, LXII these implements are shown, the masher appearing in pl. LXI, 1–5, and the batea in pl. LXII, 4. In this form the plantain will keep for three or four days, and is a nourishing, concentrated food. It is, however, never eaten in this form, but is diluted with water into a very thin gruel, which is drunk more as a refreshment between meals than as a regular food. The plantain mash is also carried on short trips into the mountains or along the river, and is made into gruel as needed.

Both green and ripe plantains are also roasted over coals, the ripe ones generally with the outer covering, the green ones usually without it. When thus cooked also, the green plantain is preferred to the ripe. It is ordinarily roasted until quite dry, when it is mashed on the mealing stone with the muller. The pounding in this case is not the same as in making bala—the plantain is merely mashed flat, without any mixing with the hand.

Still another method of preparing green plantain, but one that is not applicable to the ripe fruit, is the making of a kind of tamales. With a small shell the plantain is scraped to a mushy consistency, and, after the addition always of a little salt and sometimes of pounded meat, fish, or certain species of insects, is rolled into a long, slender cylinder, covered with the tough green leaf, ū'tya hakī, before referred to. This preparation is then roasted before the fire for some

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

minutes, usually until the leaf covering is largely, if not entirely black. The covering is then removed and the tamale eaten in that form or after being mashed flat upon the mealing stone. When obtainable, a species of large black beetle (*Rhymchophorus palmarum*), called kū′perū, is used as one of the ingredients in the making of these tamales, and it is said by the Indians to be one of the most toothsome of all their foods.

The method usually employed in preparing other vegetal foods, such as yuca, sweet potatoes, etc., is by boiling in the ordinary manner. Meats and fish are generally boiled in pottery vessels without the covering of leaves above mentioned, and they may also be broiled or baked. Broiling is done in the ordinary manner, by simply placing the food over the fire. In baking, however, a special method is employed. After being properly prepared and cut into small pieces, the meat is wrapped in two thicknesses of the tough green leaf above mentioned. The flat package thus formed is then placed upon the coals, and hot ashes and coals are heaped upon it. Several minutes are usually needed for this baking, and sometimes it is necessary to replenish the coals or to turn the package over to insure proper cooking. This method is much employed in cooking all kinds of meats, fish, shellfish, and crabs and other Crustacea.

In this warm, humid climate, where meat keeps but a very short time, drying and smoking over the fire is much employed by the Cayapa when any considerable quantity of meat or fish is on hand. For this purpose

3: Barrett E-5 (1908-1909)1925
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MASHERS, CHOCOLATE STIRRERS, AND FOOD PADDLES

BARRETT—CAYAPA INDIANS

[p.76(A)]

3: Barrett E-5 (1908-1909)1925
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MEALING BLOCK AND STONES, AND WOODEN TRAYS

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

PL. LXIII

UTENSILS FOR MAKING RUM

BARRETT—CAYAPA INDIANS

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415.

[p. 84(A)]

3: Barrett E-5 (1908-1909)1925
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time, and each is followed immediately by the beveled point of the next stalk. Below the rollers and between the uprights which support the whole mechanism is placed a large canoe-shape wooden trough such as that shown in pl. LXIII, or in pl. LXV, into which the cane-juice flows. In case there is no such special wooden trough at hand, or the regular trough is otherwise in use, a small canoe is carefully washed out and used instead. When necessary, leaves of the hoja blanca or of the plantain are placed at the sides of this receptacle in order to prevent the juice from falling or splashing outside. These leaves are especially necessary when, as occasionally happens, a large pot instead of a trough or a canoe is used as a receptacle for the juice; in such an event a funnel is usually built up with leaves above the mouth of the pot.

When the whole rick of cane-stalks has been ground in this manner, the motion of the rollers is reversed, wedges are driven into spaces above the bearings of the uppermost roller in order to bring the two rollers more closely together, and the cane is rolled a second time. During this part of the process, however, two or three of the previously crushed stalks are placed one upon another and almost as much juice is pressed from each as was obtained in the first rolling. As the stalks are received from the rollers the second time, they are quite devoid of juice and are thrown out on the ground. Thus in front of each mill is heaped a large mound of cane trash, such as that shown in front of the mill in pl. VI.

During the grinding of the cane a large copper kettle,

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

called pai'la, is kept filled upon a fire in another part of the building, and the juice is here boiled as rapidly as it comes from the rollers. This boiling is allowed to continue for from ten to twenty minutes, during which time the froth which rises to the top is skimmed frequently, with a special perforated dipper or skimmer, usually attached to a long handle and called cī'cūlya, or with a large calabash spoon called cī'ñ-kūtcada, the latter part of which term is from the Spanish cuchara, "spoon." When the juice has reached the stage where it boils without producing froth, this part of the process is considered finished; it is then dipped out of the kettle with a long-handled calabash dipper like that resting across the end of the canoe-shape wooden trough shown in pl. LXIII, and that in pl. LXV, and called sū'mbū or i'ckala pī cūñuntsūmi, and is placed in one of the large canoe-shape wooden receptacles above mentioned, where it is allowed to cool for several hours. When thoroughly cooled it is put away to ferment in large pottery vessels, or ollas, of the form shown in pl. LXXXVII, 11. Several thicknesses of the leaf of hoja blanca are placed over the opening of such a pot and tightly bound about the rim. The juice is then allowed to ferment for from two to three weeks, when it is ready for distillation. The boiling and subsequent cooling of the juice before placing it in the ollas is said to be necessary to prevent souring.

Usually a sufficient quantity of the juice, called by the Spanish name guarapo, rendered wa'pū in Cayapa, is prepared at one time to fill several large ollas. While

STILL, CANOE-SHAPE DISH, AND DIPPER

[P. 86(A)]

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3: Barrett E-5 (1908-1909)1925
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fresh from the rollers, as well as after boiling, in fact at any stage before it begins to ferment, the juice is called pi' wapû, literally "water guarapo," in contradistinction to the fermented juice, which is called sa'wapû, meaning "sour guarapo." The ollas referred to are especially made for the purpose, and are the most difficult work of the potter, as their size renders them not only inconvenient to form and handle while drying, but makes them also extremely hard to fire. They are almost invariably coated inside and out with brea (Cayapa, amû'ya), the wax of a small bee, which renders them impervious and prevents waste through seepage. The bases of these large vessels are comparatively small, therefore to prevent them from tipping, each is set upon a ring made of refuse cane. When sugar-cane was first introduced among the Cayapa, rum was not made, but the fermented guarapo was much drunk, and even at the present time considerable quantities are so used. To be sure, it is by no means so intoxicating as rum itself, but after it has fermented for two to three weeks it contains a considerable proportion of alcohol. The fermented guarapo is drunk not only about the home and during the process of distillation, but also to a certain extent at fiestas, to which it is brought in large ollas and consumed in place of rum and by some in preference to it.

The guarapo is finally distilled in order to produce the concentrated alcoholic beverage known by the Spanish name aguardiente and called by the Cayapa i'ckala. The still used in this final process is illustrated in pl. LXIII, from a photograph made while the distillation was in

3: Barrett E-5 (1908-1909)1925
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time to time. This thick paste is then placed in a cooking-pot or kettle with the requisite amount of water and boiled, the consistency of the gruel of course depending upon the amount of water added. The thick gruel is eaten with the fingers, or frequently nowadays with a spoon, and is eaten as ordinary food. The thin gruel, which is more frequently made and which usually is sufficiently liquid to be called a beverage rather than a mush, is drunk from small hemispherical calabashes. It is flavored with a little salt, or preferably with sugar. This food is called champo (tcambō'se in Cayapa) and is used almost exclusively at feasts, where it is served in canoe-shape wooden vessels, called tcambō's küle, made especially for the purpose. These utensils are from two and a half to three and half feet long, their ends are made like the prow and stern of a regular canoe, and they are elaborately ornamented with the same painted designs as are used on large canoes. These little vessels may be set upon the feast table, but often they are carried about among the feasters, in which event one of the masters of ceremony takes the prow and another the stern and pass throughout the house, being careful that everyone is served. On the surface of the beverage float from two to four or five small calabash dippers, or mates, with which the champo is drunk.

A sufficient amount of maize to provide seed for the succeeding year is allowed to ripen on the stalk each season. The ears are gathered, the outer husks bent back, and tied together in bunches of a dozen or more

3: Barrett E-5 (1908-1909)1925
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287 impeint of the maul (fig. 6) with which it was beaten as numerous sets of short parallel lines, all at an angle of about forty-five degrees with the perpendicular. Bark cloth is never decorated in any way and is strictly utilitarian. It serves almost exclusively as a sleeping [352 513] mat, and constitutes, together with a mosquito canopy and a thin cotton sheet used as a cover, all that is considered necessary for a bed. It is used occasionally for wrapping a dismantled loom or for some other special purpose.

The beating of the cloth must be done very carefully in order not to cut or tear apart the fibers, thus making holes in the cloth which render it practically worthless. The fibers naturally criss-cross and interlace in such a manner that when the beating is carefully done the result is a cloth which, while very thin, is at the same time very firm. If for any reason, however, a hole does appear in the cloth during the process of beating, it may be mended by simply placing over it a piece of bark of sufficient size to somewhat more than cover it and beating this in. The beating mixes the fibers of the patch with those of the main fabric in such manner as to make the patch almost as firm as the cloth itself.

At the present time some of the most characteristic utensils of the Cayapa are made from calabashes. They claim that in their former life in the mountains these utensils were of pottery and that the calabash came into use among them only after their arrival on the Rio Cayapas. It is said also that there was originally a calabash tree native to this region, but that the two

3: Barrett E-5 (1908-1909)1925
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species now used, the one producing a globular fruit called wa′iyū, and the other an ellipsoidal fruit called cū′lya, were introduced here from Colombia. Every house is provided with one or more of these trees, and usually at least one of each of the two species. These large gourd-like fruits are produced in considerable numbers by such a tree and find a variety of uses. They are gathered when just ready to turn from green to ripe and are immediately hollowed out into utensils of several kinds. The details of manufacture and the uses of these utensils are treated on pages 166–173.

Another fruit, some species of which are said to be indigenous and some introduced, which is found abundantly in this region, is what is called by the local Spanish name guabo or guaba. This requires no cultivation, but the trees are carefully guarded against destruction. It is rarely if ever purposely planted, but grows from the accidental dropping of seeds. In the vicinity of almost every house there are several trees of one or more of these species. The fruits, which grow in long pods, are much esteemed and are almost invariably eaten raw. Each variety has its own special name, as follows:

Cayapa	*Spanish*
mactē′-pa cīlyū,	guabo de macheton (machete guabo, so named on account of the shape of the pod).
ni′ñga cīlyū,	guabo de tacoano.
pī′ cīlyū,	guabo dulce (sweet guabo). The Cayapa name signifies "water guabo."
sa′ cīlyū,	guabo agria (sour guabo). The Cayapa name also signifies "sour guabo."
pū′cīlyū,	guabo.

3: Barrett E-5 (1908-1909)1925
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These are carved from single blocks of wood and represent a variety of animate objects. Chief among them are human figures, both male and female; next follow mammals and birds, and now and then alligators are represented. In pl. LXXXIV, 1 to 5, are shown typical dolls representing human figures. The simplest of these, shown in fig. 4, is a cylindrical block of wood with carved head and face. From such simple forms dolls range through various stages of detail to well-carved figures such as that shown in fig. 5, in which the parts of the body are carefully represented and an attempt is made to imitate the cropped hair of the men by carving a raised band about the head, although the doll is evidently intended to represent a woman. The fact that the hair is thus represented is perhaps due to the inability of the workman to carve the long flowing hair of a woman.

Animals and birds of various kinds are carved more or less perfectly. Examples of these are shown in pl. LXXXIV, figs. 6 and 8. Fig. 7 of this plate represents a well-made figure of an alligator. Some of the figures, as for instance this alligator, are made of very hard wood, dressed and smoothly rubbed.

Dolls are about the only playthings, other than small pots, baskets, and other utensils, that the children have, for, as already stated, the Cayapa have practically no games.

In pl. LXI are shown several implements of wood, all of which are used primarily in cooking. In figs. 1 to 5 are illustrated typical mashers, called matcõ'ka,

3: Barrett E-5 (1908-1909)1925
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used especially for crushing ripe plantains in making the gruel already described. Some of these mashers are perfectly plain, consisting of a cylindrical stick with a large flat end (fig. 4), but most of them are more or less ornate, especially at the upper end. The simplest type of this ornamentation is that shown in fig. 2, in which the upper end of the masher is of a form similar to that of the lower end, but is considerably smaller. Various other forms of ornamental ends, with or without notches, are made; two of these are shown in figs. 1 and 3. Occasionally also some ornamentation is found along the handle, and especially toward its lower end, as shown in fig. 5.

Another wooden implement of special use is the chocolate stirrer, called tcōkōla'*te* tca'lī, two specimens of which are shown in pl. LXI, 6, 7. These stirrers always are provided with lateral projections at their lower ends, by means of which the stirring is done, the implement being twisted rapidly back and forth—between the palms of the hands. Chocolate is rarely used by the Cayapa, but when prepared as a beverage it is usually boiled in a pot somewhat similar to that shown in pl. LXXXVII, 9. The chocolate stirrers also are sometimes ornamented at the upper extremity, as shown in fig. 7, or directly above the four lateral projections at the lower extremity, as in the one illustrated in fig. 6. In the latter case the ring of small ridges projects almost if not quite as far as do the four lateral projections, hence the ridges serve to stir the chocolate as well as do the projections. Whatever useful purpose this ring

3: Barrett E-5 (1908-1909)1925
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of small ridges may now serve, however, it seems to have had its origin in a desire to ornament the stirrers, since most of them are plain at that point (as is the one shown in fig. 7), and because various stirrers of this form have carvings at that point which are similar though much smaller and are obviously purely ornamental. 415 531

A second form of stirring implement is the food paddle, called kūwi'ñgī, two specimens of which are shown in pl. LXI, 8, 9. These are used for stirring all kinds of foods while cooking, but especially ripe plantain gruel and a kind of gruel or mush made from green corn. In many cases these paddles are perfectly plain, as is the one shown in fig. 9, but now and then they are embellished with notches or incised ornaments as is the case with the one shown in fig. 8. 415 [531]

A utensil in common domestic use is an elliptical wooden bowl, copied after a type made by the whites and negroes of the region and bearing only the Spanish name batea. They vary more or less in their elliptical form, but a typical specimen is shown in pl. LXII, 4. They are always provided with a projection at each end to serve as handles. They are hollowed out from a single piece of wood, and range from a foot to three feet in length. Bateas serve a variety of purposes, but they are used especially for the preparation of certain foods, such as ripe plantain gruel, corn gruel or mush, and the like. They are used also as trays for washing meats or other foods, and frequently are employed in mixing and working clay during the process of pottery-making. [177] [252] [323]

3: Barrett E-5 (1908-1909)1925
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415 pottery-making. A shallow wooden tray, like that shown in fig. 3, is sometimes, though much more rarely, made by the Cayapa for similar purposes. It also is called batea.

[272] Somewhat similar in form to the batea is the canoe-shape dish, called tcambōs kū'le, used in serving the drink or gruel called in Spanish champo and in Cayapa tcambō'se, which is made from green corn. This is made exactly after the fashion of a canoe, with the characteristic prow and stern ends, and ordinarily with the painting along the gunwales as well as upon the prow and stern. It is usually from two and a half to three and a half feet in length, and is much wider in proportion than the river canoe, being ordinarily from ten to twelve inches in width. As mentioned in speaking of the uses of corn, the champo dish is used only at fiestas for containing champo and on rare occasions the ripe plantain gruel called ma'la.

[252] Another wooden utensil is a heavy mealing block used especially for pounding green plantain to make the food called in Spanish bala and in Cayapa panda lō'ta. Such a mealing block, shown in pl. LXII, 1, may be compared in form and size with the average stone used for the same purpose. In fact, these blocks are much less frequently used than mealing stones, such as that shown in fig. 2. The mealing blocks are usually more or less elliptical in form and about eighteen inches in length. With such a block is always used a stone muller.

300 Various other implements are made of wood, but

3: Barrett E-5 (1908-1909)1925
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most of these have been or will be discussed in other sections of this paper. Among these objects are hooks for suspending various commodities and for use as a fish-pole rack; spinning and weaving implements; mesh sticks used in the manufacture of cordage and netting; mauls for beating out bark cloth; the condensing board or "worm" employed in distilling, and stamps for body decoration and for canoe painting.

Stone Implements

The stone implements used by the Cayapa are confined almost entirely to the mealing stone and the muller. The former is usually a flat stone from eight inches to a foot in width, from a foot to two feet in length, and five or six inches in thickness. The upper side is slightly hollowed by means of pecking with an old ax or other heavy iron implement. Very few of these mealing stones are made at the present time; indeed few modern mealing stones are now in use. A similar type of stone was used by the former mound-building inhabitants of this region, and from these mounds and old village-sites the Cayapa now obtain practically all the mealing stones needed for their use. In pl. LXII, 2, is shown one of these stones of the typical, modern, Cayapa form, in which the depth of the hollowed upper surface is comparatively slight, but usually the mealing stones obtained from ancient sites are hollowed to a somewhat greater depth. The hollowed portion extends over almost the entire upper surface. Along the sides and generally at one end there is left a ridge to

3: Barrett E-5 (1908-1909)1925
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retain the foods which are crushed and pounded upon it. Usually at the opposite end there is no such ridge, the opening serving especially in grinding green corn.

With this mealing stone, and also with the mealing block (pl. LXII, 1), is used a muller consisting usually of a cobblestone from five to seven inches in length, three to four inches in width, and two or three inches in thickness. Sometimes such a muller is shaped artificially. A typical muller is shown in place as it is used on the mealing stone in fig. 2.

The mealing stone and muller are used primarily for making what in Spanish is called bala, boiled green plantain mashed and pounded. From one to half a dozen green plantains are put on the mealing stone, then rolled lightly and mashed with the muller, after which they are pounded with considerable force with the muller held in the right hand while the left is used between strokes to return the fragments of plantain, which have been thrown off by the force of the blows, to the center of the mealing stone. From ten to fifteen strokes of the muller result in a mass of fine-grained but soggy plantain of a light-yellow color. This resembles in texture a piece of half-baked bread-dough and is much esteemed by the Cayapa and also by the negroes. The women and girls usually prepare the bala for the men and boys, and serve it on plates, or, in the more primitive fashion, upon the cooking leaves called ū'tya haki. After the men and boys have been served, the women and girls then make bala for themselves, which they eat directly from the mealing stone. After the meal, the muller is laid upon

3: Barrett E-5 (1908-1909)1925
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Calabash Implements and Utensils

415 177 245 A class of implements which appear to have come into use since the Cayapa moved to the river valley are made from calabashes, the gourd-like fruit of a tree grown quite commonly along the river. It is said by the Cayapa that in former times pottery was used largely for the many purposes which the various utensils made from the calabash now serve, for the reason that this tree does not grow in their former mountain home. They say that the particular species of calabash which they now grow and use so extensively is an importation from Colombia, but that there is indigenous to this section another and smaller species. The Cayapa maintain that the Indios Bravos, who formerly inhabited this region, used this indigenous calabash and made receptacles similar to those which they themselves now make.

415 245 As before described, there are now grown two different forms of calabash, the one globose (called wa'iyū), the other ellipsoidal (known as cu'lya). These fruits grow to about the size of a man's head, though sometimes they are considerably larger, and a tree produces a large number in the course of a year.

415 The calabash, for whatever purpose it is intended, is always gathered while green, but it is not at its best until it commences to ripen. On the other hand, if allowed to ripen completely it becomes too hard for use. The globose form is much more used than is the ellipsoidal, since the latter yields usually but one type of utensil: the spoon, of which six or eight are obtained from a single

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calabash. Now and then a small cu'lya is cut into halves and used in the manner of the hemispherical calabash dish called in Spanish mate. The globose calabash yields seven types of utensils. Of these the water-calabash (used as a receptacle for storing water), the small trinket calabash, and the cotton-wad calabash (used with the blowgun), are made from the whole fruit and are therefore globose in form. The mate, the sieve, the dipper, and the skimmer, are each made from half of one of these fruits, and consequently are hemispherical.

The spherical calabashes, such as those shown in pl. LXIII and pl. LXV, are called wa'iyū and are used for carrying and storing water. They consist almost invariably of the large, entire, globular fruit, with a small opening made at or near the stem for filling and pouring. Such a calabash sometimes measures a foot or more in diameter, and each of the women and girls of the household has usually two at least in number, which she keeps filled and on the water rack near the fire-box. Even little girls have one or two small calabashes, which they regularly fill and use in connection with the cooking, in which art they learn to assist while very young. This smaller spherical calabash is used as a receptacle for various other articles: those measuring from two to four inches in diameter are used to hold such trinkets as fishhooks and the like, while the smallest ones, called le'meta, are for containing the red and yellow achote used as face-paint.

When gathered green, calabashes are filled with a mass of fairly hard white seeds and pulp, which are removed

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with considerable care, especially from the globose water-calabashes (the wa′iyū) which have such small openings. By repeatedly striking the shell of the calabash gently with the point of a machete or other sharp-pointed implement in such manner as to chip the shell away little by little, an opening of the desired diameter is made: this is usually at or near the point at which the stem of the fruit was attached, and its size depends on the size of the calabash, but it rarely exceeds an inch and a half. With a long implement (wai-be′rū, or wai-be′ū; from wa iyū, calabash, and be′rū, hook), such as that shown in pl. CXVII, 1, the seeds and pulp are removed. It has one end shaped like a chisel, the other being fitted with a piece of coconut-shell in the shape of a hoe-blade. The chisel end is first inserted and the mass of pulp cut and worked into as small pieces as possible, a small quantity of water being added from time to time. The greater part of the pulp having been thus removed, the implement is reversed and the inner walls of the calabash are scraped with the hoe-end until they are smooth and clean. This process is usually performed in a canoe at the river where an abundance of water is available. Finally the calabash is turned with the opening downward over a stick, outdoors, until it has thoroughly dried. This curing in the more or less direct sunlight changes the color of the outer surface of the calabash from light-green to dark-brown.

Calabash receptacles are frequently ornamented with incised lines or figures, or with grotesque figures of mammals, birds, and human beings. A variety of these

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designs is shown in pl. LXXXVI. This decoration is accomplished by cutting with the point of a machete or a knife while the calabash is green, and results, when the utensil is dried, in a white linear figure on a brown background, since it is only the thin outer skin of the calabash that turns brown in the curing. After several days of curing in the open, excepting during rain, the calabash vessel is ready for use. It is rarely put into service immediately, however, since a considerable supply of these utensils is always kept on hand; more frequently it is stored away to season thoroughly and become more durable. A small cross-stick attached to a piece of pitigua cord is inserted in the opening of a globose water-calabash, which is then suspended from a rafter of the house to season. Ordinarily several of these calabashes are thus hung in a cluster. The opening is always plugged with a piece of hoja blanca, or of the leaf ū′tya hakī, used in cooking, in order to protect the calabashes from the ravages of cockroaches.

A second type of calabash utensil, called in Spanish mate and in Cayapa cu′lya, is usually hemispherical and is made ordinarily of the globose form of fruit. Now and then, however, an ellipsoidal calabash is used for this purpose, in which case the mate is elliptical in horizontal cross-section. Fig. 13 exhibits a hemispherical mate resting on a typical woven ring, made to keep it in an upright position, especially when used to serve liquid at feasts. About the rim and on the sides of the mate are shown incised decorations. By cutting the fruit exactly in two, through the stem, a single calabash of

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● 415 [442] course provides two mates. The cutting is almost always done with an old machete, the edge of which is serrated by striking it with another machete at intervals of about an eighth of an inch. With this crude saw the shell of the calabash is carefully cut along a line marked usually by a string tied tightly around it. The removal

[285 531]

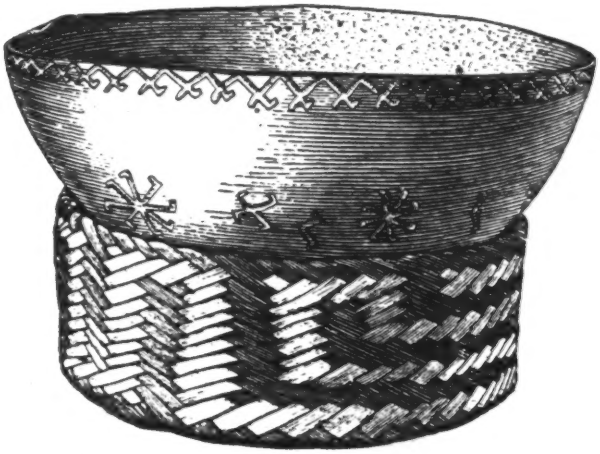

FIG. 13.—Calabash vessel and woven ring

of the pulp is in this case a simple matter. It is first scooped out in large pieces with the point of a machete or a knife, and then, when the inner surface of the shell is reached, it is scraped carefully and smoothly with a small, smooth-edged clam-shell. The drying also is a more simple process than in the case of the water-calabash, since the inner surface is more exposed to the air.

When dry, the mate is used for a multitude of purposes, such as dipping liquids, serving foods, and so on. If permitted to lie for a long time in any liquid, the cala-

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bash absorbs the moisture, causing it to soften and ultimately to decay; but if kept in a dry place when not in use, it may be of service indefinitely. Although the walls of one of these calabashes are not more than a sixteenth to an eighth of an inch in thickness, they bear a considerable strain, as when used in bailing canoes. Inasmuch as canoes are always left over night in the river, they often become more or less filled by rain during the night, consequently the need of calabash bailers is very great. On arising in the morning it is the duty of some member of the family, if the day is fair, to go to the river with a mate and bail out all of the canoes, both those of the members of the household and those of visitors.

The advantages of a mate over a pottery or other heavy vessel are apparent: it is easily made, fairly durable, and very light. Its lightness and portability are of special advantage in traveling by canoe, when every pound saved is important; moreover, it will not sink should it be dropped overboard. In fact, advantage is taken of the lightness of the mate in the following interesting manner: Some canoes are very long, and when fully loaded in their center it is impossible for a person in the prow to pass anything, such as food, to one in the stern. Therefore, in event of such need, it is necessary only to place the article in a mate, set the mate in the water, and as the stern of the canoe passes it, it is picked up. To pass any small object, such as a knife, it is usually placed on the blade of one of the long paddles and passed over the cargo. Obviously this could not be done with a round-bottomed mate, especially if it contained liquid.

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The mate[1] has still another special use—that of a woman's cap. With it is worn a piece of light-weight black cloth or a double bandana handkerchief, which passes over the head and shoulders and hangs down the back as a protection from the sun. Usually this cap is decorated with incised lines and figures, and occasionally it is used as a drinking-cup in traveling, but it is never put to any of the ordinary uses in which common mates are employed. On long canoe journeys the women usually carry special mates for use as urinals.

By means of two small perforations at each of two opposite points, a hemispherical mate is bound to a long handle to serve as a dipper, especially in the distillation of rum. Such dippers, called sūmbū and ūīkala pī cūīnūnt-sū′mī, are shown in pls. LXIII and LXV.

Further, the bottom of a mate may be perforated to adapt it as a sieve or strainer, called cī′culya, in making green-corn mush and ripe plantain gruel. Attached to a long handle, such a strainer is employed for skimming the froth which rises in boiling cane juice preparatory to fermentation.

The third form of calabash implement is the spoon, called ci′ñ kūtcada, from Spanish cuchara. This implement is always made by cutting narrow sections from the side of an ellipsoidal calabash with the saw-like machete above mentioned. One of these fruits ordinarily provides material for six to eight spoons, varying in length from three or four to as much as fifteen inches. The large spoons are commonly used for stirring food while cooking, and both the large and the small

[1] [i.e., A hemispherical gourd container.---Analyst]

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PL. LXXXVI

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DESIGNS ON CALABASH UTENSILS

[p. 172 (A)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

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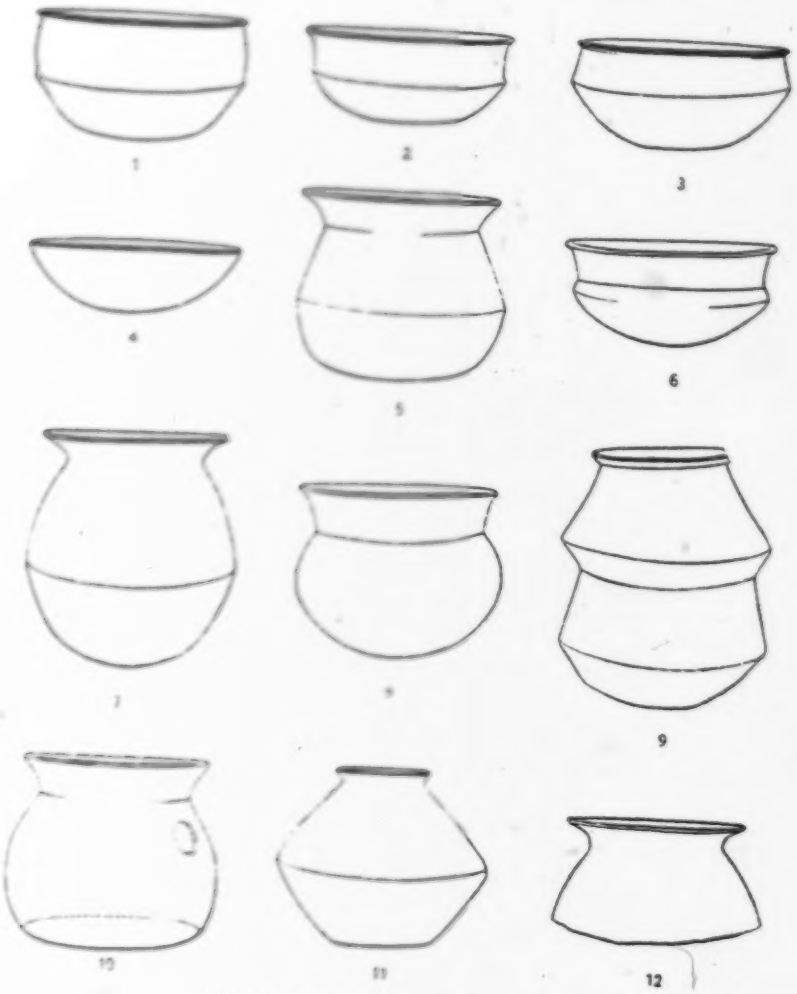

FORMS OF POTTERY VESSELS

[p. 172 (B)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

ones are used to a certain extent in eating, although for this purpose they have been largely superseded by iron spoons. Calabash spoons, like the mates, are often ornamented with incised lines.

Pottery

The Cayapa make a rather crude, heavy pottery vessel, entirely undecorated except in a few forms in which incised lines and dots are impressed in the rim or the shoulder; but no painting, slipping, or glazing is used. The generic name for pottery is pia'ma, or bĭa'ma.

There are in all ten forms of pots, eight of which are in general use among the Cayapa. All are shown in outline in pl. LXXXVII. These types are: 1, A shallow plate form (fig. 4), called specifically tŏ' palatŏ. 2, A somewhat deeper cooking-pot (figs. 1–3), the sides of which, under ordinary circumstances, are comparatively straight, while the rim is without a lip. 3, Another cooking-pot (fig. 6), with a more or less hemispherical base, a pronounced shoulder around the side, and a prominent outcurving lip. 4, A small, flat-bottomed pot (fig. 5), somewhat of the form of an inverted truncated cone and with a more or less outcurving lip. 5, A somewhat globose form (fig. 8), with wide neck and outcurving rim. 6, A large storage olla (fig. 11), called specifically bŭ'lŭm bĭama, with slightly oval bottom, more or less conical sides, and narrow neck with outcurving rim. 7, A large pottery caldron (fig. 7), which forms part of the still. 8, The condensing chamber (fig. 10), without bottom, used in distilling rum. Pots of the

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SD6 Cayapa SD6

323 forms shown in figs. 1–2, 6, are without special name,
415 being known by the generic term pĭa'ma. Those of the forms represented in figs. 5, 7, 8, are called kanda'rō.

323 To these earthenware vessels may be added a ninth
352 form, though it can not strictly be considered as a separate type, since it is made by breaking off the lower portion of one of the other forms (fig. 12). It is set over the fire and serves as a kind of chimney to direct the smoke and heat upward to the fish that are laid upon sticks
415 across its mouth for curing. There is also used, though
323 rarely, for making chocolate, a pot with reëntrant sides like that shown in fig. 9.

317 The clay, called tū or tō, used in pottery-making is
323 yellowish-brown in color and is dug from the banks of certain esteros. Usually a considerable quantity is gathered at a time and brought by canoe to the house, where it is worked over to remove stones, sticks, and other impurities. It is then wrapped in leaves and put in a shady place until needed, being moistened with water from time to time. For tempering the pottery there is mixed with the clay a bluish, gritty earth, called lu'c tū, meaning literally "blue earth or clay," which also is found in a few places along the river.

323 In making pottery, the woman takes a quantity of cleaned clay and again works it over to remove any remaining foreign substances, water being added if necessary to make it plastic. When the clay is of the proper consistency, the bluish, gritty earth above referred to is thoroughly kneaded into it, in quantity equaling perhaps one-tenth that of the clay. This

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POTTERY VESSELS SET TO DRY

[p. 174(a)]

3: Barrett E-5 (1908-1909)1925
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PL. XC

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POTTERY AFTER FIRING

BARRETT—CAYAPA INDIANS

[p.176(11)]

3: Barrett E-5 (1908-1909)1925
SD6 Cayapa SD6

If possible some ripe-plantain gruel, called ma'la, is poured into the newly-fired pots, which are returned to the embers where the gruel is soon cooked. This cooking serves to fill the pores of the pottery, rendering it practically impervious. If it is not practicable to boil the gruel immediately, the inner and outer surfaces of the receptacles are later rubbed thoroughly with green plantain for the same purpose. This method, however, is considered inferior to the other. 323

All pottery used for ordinary cooking and serving is completed with the firing and the filling of the pores with plantain. Those pots, however, designed for use in fermenting cane-juice in making rum or for the storage of liquids, rather than for use over the fire, are given a coating of brea, usually inside and out, which renders them impervious. It would be useless to apply the brea to pots that are to be placed over the fire, since it melts at a low temperature and readily ignites. Also, if a pot is not intended for storing liquids, there is no reason why it should be entirely impervious, since all earthenware will hold liquids for a short time without allowing moisture to pass through it to any detrimental extent. 323 415

So far as is known, fired clay serves but one other purpose among the Cayapa, that of making small sinkers, called wengōtca'lī, for fish-lines. These sinkers are either globose or cylindrical, with perforations through the center, and are fired in the same manner as ordinary pots. A line with its sinker is shown in fig. 9 (page 131). 323 227

[p. 182 is blank]

3: Barrett E-5 (1908-1909)1925
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BASKETS OF PITIGUA AND CHAPA

[p. 186(B)]

3: Barrett E-5 (1908-1909)1925
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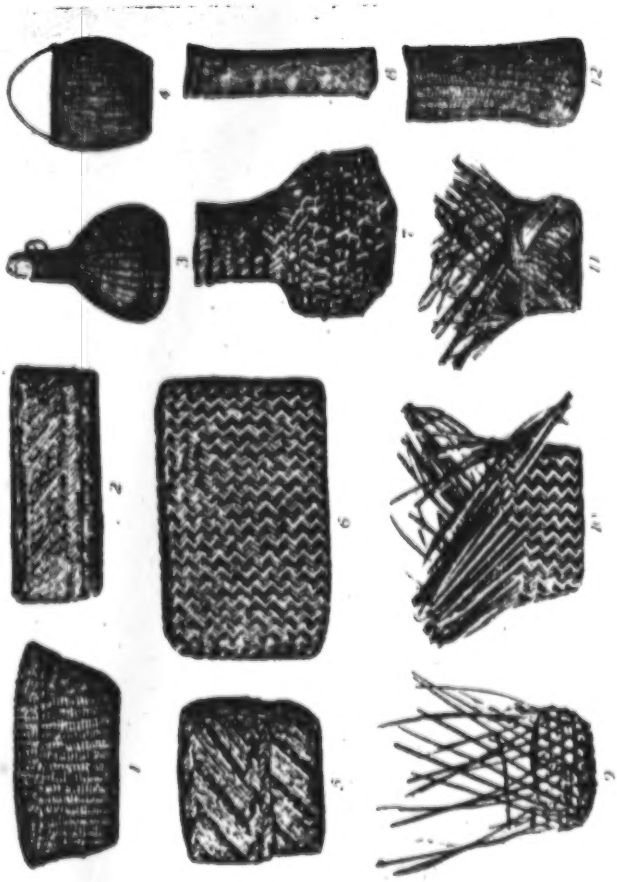

PL. XCIII

BARRETT—CAYAPA INDIANS

LIGHT BASKETS

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[p. 190(A)]

3: Barrett E-5 (1908-1909)1925
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work is still more apparent than in the one here referred to, because these composite, wide elements are made to pass under and over one another several times instead of only once. This process is never employed except at the starting point of this form of basket.

In detail the technics employed by the Cayapa in their basketry are as described below. Further, in addition to its use in basketry, twilling is employed in making mats and fans, and wicker is used in certain burden-bands and in fan-handles.

WICKERWORK

Wickerwork, the simplest of the two-element technics, consists of the passing of a single active or woof element over and under successive passive or warp elements. The Cayapa employ this technic almost solely in connection with the material derived from the aerial root called pitigua and for the making of five forms of basketry: a burden-basket, a shallow rectangular basket, a bottle-shape bait basket, a more or less globose basket used in carrying fruits and as a general household utensil, and a long tubular basket used especially as a receptacle for spindles. Examples of burden-baskets are shown in pl. XCII, 4, 7, while the other forms are illustrated respectively in pl. XCIII, 1, 3, 4, 12.

Ordinarily the Cayapa wickerwork is comparatively tightly woven, as is shown in illustrations referred to. There are, however, two special types of wicker basket which are open in their technic. Both are made for the purpose of allowing water to pass readily through them, being used especially as cages for live crayfish which are kept in the river until required for food.

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downward, then outward to a position in front of the next pair of warp elements, and finally inward and behind the next pair of these elements. Along the outer surface and directly opposite the above-mentioned horizontal splint, another is passed, and these two are secured by two splints passing spirally and in the same direction along the entire border in such manner as to fasten firmly the pairs of turned-down warp elements. 285

As above mentioned, the wicker technic finds slight use outside of basketry. It is employed in weaving the broad head-bands of the burden-straps which are made of pitigua or of the fibers from the leaf of the palma real, and occasionally in weaving the outer surface of the handle of a fan. In the use first mentioned the elements employed are fairly broad strips of pitigua, as shown in pl. CIII, 1. In the second, the warp elements are made by placing from four to six of the small cylindrical palma-real fibers side by side to form a broad and fairly rigid element. The woof element consists sometimes of but a single palma-real fiber, but usually of two placed side by side as shown in pl. CIII, 3. Occasionally more than two of these fibers are used in such a woof element. The surfaces of fan handles are almost always made, like the blades, in twilled technic, but occasionally one is found which is in wicker, as in the example shown in pl. CIII, 5. 285 293 [482]

TWILLING

The second technic consisting of two elements is twilling. This is employed in the making of hamper-shape baskets (pl. XCIII, 2, 5, 6, 10, 11): long, tubular 285 415

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[415] 285 [352] baskets (pl. XCIII, 8), used as receptacles for spindles; mats (pl. CVI, 1, 2); fans (pl. CIV); and rings used as rests for calabashes (fig. 13). In all of these the material used is the bark of the fan-leaf palm, locally called pambil. But one type of basket has been encountered in which this technic is found in combination with another material: this is a square-bottomed, cylindrical basket similar in form to that shown in pl. XCII, 3, and is made of pitigua. A section of the side and border of this basket is shown in pl. XCIV, 6.

285 The manipulation of the elements in twilling varies considerably in Cayapa basketry. There are three fundamental methods of handling these elements, as follows: (1) A method by which one element passes over two and under two of the elements which run in the opposite direction (pl. XCIV, 3); (2) a method by which it passes in a similar manner over three and under three (pl. XCIII, 6, 10); (3) a method in which an element passes over seven and under one (pl. XCIII, 2, 5, 8, 11; and pl. XCIV, 5). [177] The last form is said to have been introduced among the Cayapa by the Indians of Colombia, and in substantiation of this it may be noted that the few Cholo who now live on the Rio Cayapas use this form of twilling extensively. The two simpler forms of twilling, so far as could be ascertained, have been long in use among the Cayapa.

In case no design is attempted, as in the basket shown in pl. XCIII, 11, or a simple design be desired, as in the baskets shown in the same plate, 6, 10, and pl. XCIV, 2, 3, these fundamental methods of handling the elements are not varied throughout the basket. If, on the other

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531 numerical cycles of its own in the manipulation of the splints. In the design shown in the illustration referred to, the cycles produced by this fairly intricate pattern are exhibited in the accompanying pl. XCVI. In the first of these the cycle is that which results from following the splints downward from right to left, while the second is the result of following them downward from left to right.

• [415]

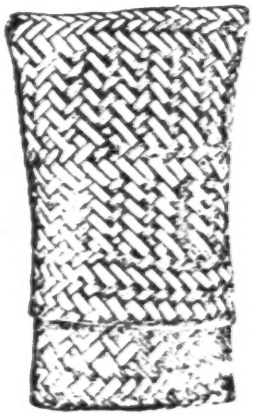

FIG. 15.—Twilled trinket basket

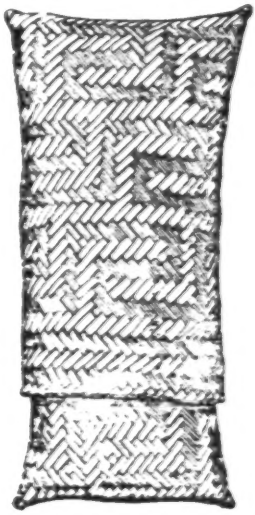

FIG. 16.—Twilled trinket basket

Taken separately, these two show fairly similar and very simple patterns. If, however, they are superposed, the points marked being taken as initial points, the intricate pattern in white shown in pl. XCIV, 1, results. From these cases and others similarly analyzed it is therefore evident that the exact mode of manipulation of the splints in all Cayapa twilling in which any intricate

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pattern is attempted is governed entirely by the pattern desired, and that any numerical cycle will be employed which will bring to the surface the elements required to produce the desired pattern.

In connection with the change of sequence of the elements in working out an elaborate design, the technical processes involved in changing the direction of a line in a simple design, such as a zigzag, should also be noted. By the very nature of this technic the angle formed in changing the direction of a line is a right angle, as may be seen in pl. XCIV, 6. The change in direction is accomplished by shifting, after the vertex of the angle is past, the point of emergence of each successive horizontal element one vertical element to the right or to the left as the case may be. In this way each of the horizontal elements continues to pass over the regular number of vertical elements as the outer surface of the basket is viewed. The same is not true of the vertical elements however. Immediately in the angle the vertical elements are so crossed by the horizontal ones that only one width appears in the case of the first element, three in the next, and five in the third, after which the two divergent lines of vertical elements run regularly over three and under three. The procedure in the over-two and under-two twilling is the same except that the odd

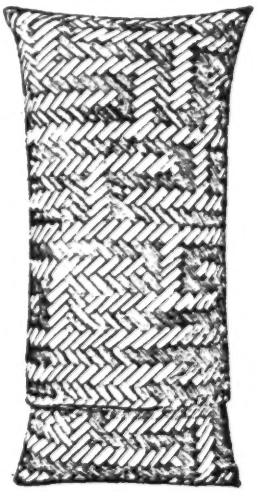

FIG. 17.—Twilled trinket basket

3: Barrett E-5 (1908-1909)1925
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285 cordage. By this process of passing these leaflets from first one side and then the other round this core of leaf-ends, a corner of the basket is built up to its topmost point, where the ends of the last two or three leaflets are tied in such manner as to prevent the corner from loosening. In the same manner all four corners are built up and the basket is then complete.

Forms and Uses

285 • 415 According to form and use, Cayapa basketry may be classed as follows:

Burden-basket, flaring,	kū′bī (pl. xcii, 4, 7).
[482] Burden-basket with vertical sides and carried usually by means of two shoulder-straps,	fe′ pickalyī, fe hi′nū pickalyī e′ pickalyī (pl. xcii, 8).
Square-sided, temporary burden-basket of hoja de chapil,	kūla′ pickalyī, kūla′pō pickalyī, (pl. xcii, 5).
Common cylindrical basket,	picka′lyī (pl. xcii, 1, 3).
Hamper-shape basket,	pū′te (pl. xciii, 2, 5, 6, 10, 11).
Bottle-shape bait basket,	tū′ñūtcītcī, dyūñūtcī′tcī, (pl. xciii, 3).
Tubular basket used for spindles,	tcūrūkū′kū, tīwōtcī′tcī (pl. xciii, 8, 12).

In addition to this classification, in which baskets used for certain purposes are of special forms, there are other terms indicating use which are applicable to a basket of any form, material, or technic. For instance, the name pū-pickalyī, from pū′ka, "fruit," and picka′lyī, "basket," may be used in speaking of any basket in which fruit is carried or stored.

As indicated in most instances by the names in the

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above tabulation, these several distinct forms of baskets have special uses. The four types of burden-basket are used almost exclusively for carrying heavy loads upon the back. The two types made of hoja de chapil are, as above stated, only for temporary use and are worthless except while the leaves are green. They are also sometimes used, even after they are dry and brittle, by the shamans in their medicine practices. The other two types, which are made of the very durable pitigua, are sometimes used as storage receptacles about the house when not needed for carrying burdens, which is their primary use.

The flaring basket, kū′bī (pl. XCII, 7), is carried by means of a single band provided with a special, wide head-band that passes across the top of the head as the bearer bends forward. This is primarily a woman's burden-basket and is used in the daily home life of the people for bringing fruits and other products from the fields and in a multitude of other ways. It is, however, rarely used in carrying wood, which is so often one of the most important functions of burden-baskets among aboriginal peoples. Wood is usually brought by the canoe-load from some point near the river where a suitable dead tree can be found.

The straight-walled basket, fe′ pickalyī (pl. XCII, 6, 8), is made especially for carrying burdens considerable distances, as on long trail journeys into the interior. Within their own territory these baskets are rarely needed by the Cayapa, since practically all travel is by canoe. Such a basket is provided with two burden-bands attached near the top and the bottom respectively,

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285 482 and so placed that the broad bearing surface of each band stands vertically. These bands pass across in front of the shoulders after the manner of the straps of a knapsack. In the case of a large basket, such as that shown in pl. XCII, 8, the cords of the burden-bands pass round the basket to give the load greater security. Further, to add strength, and especially rigidity, to such a basket, two palm-wood rods are placed vertically on the inner surface of the basket, each being so placed as to be directly at the line along which one of the burden-bands is attached. The band is made to take a turn round this rod at each point at which it is attached to the basket. These rods are also of particular service in preventing the cords of the burden-bands from tearing out the relatively slender elements with which the weaving is done, when the basket is used in carrying such a load.

285 415 What is here termed the common cylindrical basket (pl. XCII, 1, 3, and pl. XCIII, 4) has no special use other than as a general storage receptacle for foods, etc. Such baskets are frequently kept in the loft or hung under the eaves of the house when containing articles only occasionally needed.

285 415 485 Perhaps the most useful basket of all those made by the Cayapa is the hamper-shape basket, pū'*le* (pl. XCIII, 2, 5, 6). This basket serves a variety of uses, chief among which are the storage of clothing and other valuable articles, and as a traveling case. No Cayapa enters on a journey of more than a day without one of these hampers, in which are his mosquito canopy, clothing, face-paint, any jewelry he does not wish to wear, and

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any other articles of value he does not deem it safe to leave at home.

These hampers, especially when used in traveling, are tied about the middle with a cord or a woven band, and can be tumbled about without danger to their contents. They are frequently kept filled with articles in storage in the loft of the house, and often are suspended by the above-mentioned cord or band from the rafters or from one of the timbers at the eaves. Sometimes these baskets are made for special purposes. This is the case with the long one shown in pl. XCIII, 2, which was made especially for the storage of spindles, though the usual spindle storage-basket is a long tubular one like those shown in figs. 8 and 12 of the same plate. Another special form is the very small hamper-shape basket, such as those shown in figs. 15–17; these are used as receptacles for trinkets.

The bottle-shape bait basket, tū′ñūtcītcī (pl. XCIII, 3), is a very specialized form and, as its name implies, is made for the particular purpose of carrying live insect bait in the canoe while fishing. Its narrow neck is provided with a balsa stopper or with some leaves made into a bundle which serves the same purpose.

Tubular baskets, called tcūrūkū′kū (pl. XCIII, 8, 12), are made especially for the storage of spindles, either full or empty. These baskets are usually from thirty to forty centimeters in length by from seven to fifteen centimeters in diameter. Such a basket is hung by one edge of its opening, so that it hangs at more or less of a slant. It is usually suspended from a rafter or other part of the house-frame near the eaves, within easy

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283 285 415 reach from the floor. The Cayapa women are very industrious, and whenever not occupied about the daily routine of their houses and fields, are spinning and weaving. The spinning tripod (pl. CVIII) is always kept in a convenient place at one side of the house, and one or two spindles are usually kept on the small woven shelf near the bottom of the tripod. All extra spindles, whether empty or filled, are, however, kept in these long tubular baskets. When several spindles are filled they are emptied by winding the thread into balls, in which form it is stored until needed.

231 285 One very special form of basket not mentioned in the tabulation above is the large bottle-shape basket shown in pl. XCIII, 7. This unusual basket was made as a cage for a chicken. As a rule, rough baskets of the usual cylindrical form are utilized for this purpose, the opening being closed by binding its edges tightly together with a pitigua cord. This bottle-shape basket was the only one of its kind encountered, and no Cayapa name was given for it.

BASKETRY HANDLES

285 Most of the ordinary cylindrical baskets of small or medium size, regardless of technic, are provided with handles or bails such as those shown in pl. XCII, 3, and XCIII, 4. These handles are always of pitigua and are made in several forms.

The simplest handle consists of a plain piece of pitigua of the proper length, usually unsplit, tied at diametrically opposite points through the border of the basket. Usually it is passed through and brought up far enough

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As above mentioned, the fibers are fed into the thread from the bottom edge of the roll of cotton, which feeds the fibers evenly from one end of the sheet to the other. Thus, by beginning at the outer corner of the lower edge of the sheet and feeding the fibers evenly into the thread as they come from along the line of the coil made by this lower edge, the opposite end of this edge is reached. This point is at the center of the bottom surface of the roll of cotton, and when it is reached the direction of the pull of the thread is reversed so that it follows this coil back to the outer surface of the roll where its direction is again reversed and the original path is followed to the center of the coil. In this manner the fibers are not drawn from one side more than from another, hence the roll of cotton remains constantly cylindrical and is simply shortened evenly until completely exhausted. 283

Having thus filled a spindle, it is usually placed in one of the long spindle baskets (pl. XCIII, 8, 12) until such time as several spindles have been filled and it is desired to wind the thread into balls. Such a ball is illustrated in pl. CVII, 10. [415]

In order that the thread may unwind readily from the spindle, this is held between the great and second toe of each foot. The short portion of the spindle shaft below the whorl is usually placed between the toes of the left foot, the opposite end of the shaft resting between the toes of the right foot. In this manner a reel is formed and the thread unwinds easily.

Thread is almost always stored in balls. The white and the brown thread is usually kept in balls from three to five inches in diameter. The green and the lavender

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designed for their own use. In every instance these old-type designs are geometric, but the newer ones are usually realistic, depicting mammals, human beings, and other realistic objects.

In carving, the dolls are entirely realistic, as is shown in pl. LXXXIV, and depicting, the dog, alligator, bird, and especially the human form. In the last instance care is usually taken to indicate the sex. In paddle handles, on the other hand, the forms are usually simple and are always geometric, as is shown in pl. LXXVI. They have no special names. Even in the case of the elaborately carved handle shown in fig. 9 of the plate, no name was given for any of the designs. The same holds true of the designs in the face-painting sticks depicted in pl. CXXI–CXXII.

Closely related to ornamental carving are the wooden seats shown in pl. LXXXIII, some of which receive ornamental treatment certainly not demanded by utilitarian considerations. From comparison with similar objects of South and Central America it seems probable that in these seats, especially the forms shown in figs. 2 and 3, there lies a striking connection of the Cayapa culture with that of a number of other tribes in these regions. As has been shown by Professor Saville,[15] the archeological range of these objects is extensive, the most elaborate among them being the large stone seats from Manabi, carved to represent jaguars.

On the surfaces of calabash utensils are found the only incised designs in use among the Cayapa. These are

[15] See page 156, note.

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made by cutting with the point of a knife or machete through the calabash rind, exposing the inner, white, hard portion which at first contrasts greatly with the brown general surface of the utensil. After such a utensil has been used for a time the incised designs also become brown. The calabash designs shown in pl. LXXXVI present various realistic figures, as well as a considerable number of geometric designs. In the small series of figures shown in this plate there are ten recognizable animal forms, namely:

Subject	*Figures*
Human being	1–4
Human being on horse	5, 9
Monkey	6
Horse or dog	18
Bird	10–12
Lizard	13
Turtle	16
Crab	14, 36
Scorpion	7
Tick	15
Animal (unknown form)	8, 17

The majority of these designs are relatively small, but in the crab design shown in fig. 36 of pl. LXXXVI, is presented a notable exception. This design appeared about the opening of a large, spherical, water-storage calabash and covered about half the entire surface of the vessel. The usual names given to the various animals themselves are also applied to these designs. As usual, on the other hand, the geometric figures are frequently unnamed.

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Cayapa pottery is very simple in its forms and is entirely without decoration except in rare instances in

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upon the table; the rest was divided into small bits, and, after an invocation by the warden of the church, the men and boys, all seated on low benches about the table, proceeded to feast. The women meanwhile partook of a portion of the food that had been sent to the next room to them. Having finished the meal, a benediction was pronounced by the warden and the floor was cleared of all scraps of food and the leaves forming the table.

Immediately fresh leaves were spread as at first, and the boda, the word being here used in its more restricted sense, was served. While an ofrenda has a very elaborate assortment of foods, a boda has only fish, oysters, or meats cooked in ripe plantain in the form of a thick gruel. This is served always in the aboriginal pottery plates of the kind shown in pl. LXXXVII, 4, although for everyday use dishes of European manufacture have almost entirely supplanted the pottery plates formerly used. In this particular case the boda consisted of a single course of plantain and fish, but sometimes other courses are served in order. The feast having been finished, the majority of the people went to their respective abodes in the village or to the house of the chief.

At such gatherings offenders against the law are usually brought before the chief, by whom justice is dispensed and differences between individuals adjudicated. On this particular occasion several matters of this nature demanded the chief's attention. The details of these will show something of the methods of dispensing justice among the Cayapa.

Immediately after the boda on this first day the chief sent some officers to bring before him certain offenders

Other wooden articles

still made by the Cayapa include the /tá̃ʔ wináse/ 'bark cloth beater,' /naʔúka/ 'plantain masher,' and food stirrers of various types. A full listing and description can be had by consulting Barrett (Barrett 1925: 159-161). Elliptical wooden bowls called bateas in Spanish, are cut from a single piece of wood, and they serve as trays for the preparation of some foods.

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[415]

Musical instruments, which are played by the men, include the marimba or /naʔ^{h}mba/, a large drum called by the Spanish wood bombo, and a small free-standing drum that tapers at the base called cununo. The Negroes use the same instruments, but they also use various gourd rattles and bamboo shakers. Guitars are occasionally found among the Negroes but only seldom among the Cayapa.

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Pottery. This art is scarcely practiced anymore. In fact I was completely unaware that earthenware pots were in the household inventory at all until I was asked one day if I wished to purchase a small Cayapa-made one for five sucres (.30 U.S.). This was the only pot I ever saw, except for the large cantaros made by the people of the San Miguel section, for the storage of /wáps/, the fermented sugar-cane juice called guarapo in Spanish.

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